## REMARKS/ARGUMENTS

The Office Action of July 7, 2005, has been carefully considered.

It is noted that claims 15-28 are rejected under 35 U.S.C. 102(b) over the patent to Maslov, et al.

At the outset, from the Office Action is appears that the Examiner overlooked the preliminary amendment filed December 29, 2004 in which independent claim 15 was amended and new claims 29 and 30 were added. Since none of these changes or new claims were considered applicant has proceeded in the present amended as if those changes were never entered.

In view of the Examiner's rejections of the claims applicant has amended claims 15 and 17, and added new claims 29-31.

It is respectfully submitted that the claims now on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references, it can be seen that the patent to Mazlov, et al. discloses a rotary electric motor having magnetically isolated stator and rotor groups. Mazlov, et al. teach a rotary electric motor in which the rotor and stator are each configured as annular rings. The stator ring comprises groups of electromagnetic poles which contain windings that are switchably energized. This solution offers improvements relating to a torque motor disclosed by U.S. Patent Application Serial No. 09/826,422 (see column 2, lines 33-53 of Mazlov, et al; this application has meanwhile been granted as U.S. Patent No. 6,949,864). Motors according to these references can be preferably used as vehicle drives. As shown in Fig. 2, an annular rotor surrounds an annular stator comprising groups of poles. The stator groups are rigidly secured by two plates. The plate is provided with holes along the plate periphery. Each of the plates is secured to the shaft and spaced from each other appropriately to be secured, and to sandwich, the pole

structures of the stator elements at each axial side thereof via mating holes (see column 8, lines 23-26). The plates are selectively removable to facilitate access and replacement of an individual stator element that may become damaged or in need of repair, without replacing the entire unit (see column 8, lines 26-30). The rotor includes a cylindrical back plate that supports the permanent magnet groups (see column 8, lines 10-12). Maslov, et al. also mention other embodiments (column 10, lines 4-14 and 24-34), but these embodiments are not described in detail. There is no disclosure or suggestion of designing a large torque motor with an outer stator for an stationary operation.

One of the objects of the present invention is to provide a torque motor that allows replacement of individual segments of the electrical winding without assembly-related damage of the electrical winding and without disassembly of the entire stator and which, at the same time, can be adapted to changed power requirements, even after the original manufacture of the torque motor, i.e. under a variable conditions of use.

There are several differences between the torque motor of the claims presently on file and the motor disclosed by Mazlov, et al. Relative to independent claim 15, Mazlov, et al. do not disclose individual stator segments which are independently operable and each have their own housing. Relative to new independent claim 31, Mazlov, et al. do not disclose exchangeable stator segments mounted between two stator rings.

The separate housings, as well as the stator rings, allow an exchange of any segment without disassembly or destruction of the stator by the individual extraction of the segments. Mazlov, et al. disclose individual removal and replacement of stator segments, but not without disassembly of the stator. Moreover, Mazlov, et al. describe such a replacement in case of an inner stator only (see column 8, lines 26-34, in relation to column 8, line 15). This replacement requires a removal of plates (column 8, line 27) and certainly a removal of their mounting. These actions cause at least a partial destruction of the stator.

The above-mentioned differences must be considered regarding the different application areas. The motor of Mazlov, et al. is designed as a vehicle motor drive (see column 2, lines 49-52 in relation to column 2, line 40). From this point, motors with an inner stator are described in particular (Fig. 1-8). However, the motor of the present application is designed particularly for stationary operation. A large motor can be assembled directly at its sight of use by installing the stator segments in the desired place in the stator frame. From there, heavy parts of the motor can be transported separately. In the case of a defect the segment concerned can be easily extracted radially. An important feature of the present invention is that the motor can remain in operation with a reduced number of segments (page 1, paragraph 9, lines 1-3), even with only one segment. Although the motor of Mazlov, et al. is able to continue operation if a particular electromagnetic pull group energization fails (column 5, lines 49-53), it would not be useful to extract a group by a motor disassembly/assembly and continue the operation as a vehicle drive with a missing group.

The ability of the inventive motor to operate with a reduced number of stator segments is an advantage in situations other than the case of a defect. The motor can be used with a small occupied section if only low speeds of revolution and low torques are needed, but, on the other hand high precision is desirable (see page 1, paragraph 9, lines 2-6). The motor of Mazlov, et al. may remain in operation for only one or two stator groups fail but the stator segments of the inventive torque motor are stand alone units showing the entire functionality of a stator. This is an important feature of novelty of the presently claimed invention and is not disclosed in any way by Mazlov, et al.

In order to provide a torque motor which allows replacement of individual segments of the electrical winding without assembly-related damage of the electrical winding, a person of ordinary skill in the art would learn from Mazlov, et al. a direct current motor design with equidistantly distributed groups of pole pairs. Thus, a person of ordinary skill would merely learn motors designed as vehicle motor drives with an inner stator. The groups of pole pairs can be extracted when the stator is disassembled. Naturally, a person of ordinary skill would be able to adapt to this solution to a configuration with an outer stator including pole pairs. The stator

would be enclosed by a ring housing (number 30 in Fig. 20). But in the case of a large motor (e.g. diameter of 2.5m) this huge housing would be too heavy and too bulky to be practical.

A further objective of the present invention is to allow the replacement of segments without disassembly of the stator. Mazlov, et al. teach a fixing of groups within plates of the inner stator. These plates and their mounting parts have to be disassembled before replacing the segments. In the case of an outer stator, Mazlov, et al. disclose a ring housing. From there the motor has to be disassembled in order to replace a segment, e.g. sidewalls have to be removed. Mazlov, et al. do not describe a motor design which allows a replacement of segments without any motor disassembly, as in the presently claimed invention. A person of ordinary skill in the art would resolve this problem by a partitioning of the housing. Consequently, a replacement of segments would require only the disassembly of parts of the housing. However, a person of ordinary skill, based upon the teachings of Mazlov, et al., would not be able to achieve any solution for a replacement of segments without any disassembly.

Finally, an objective of the presently claimed invention is to permit adaptation of the motor to change to power requirements, even after the original manufacture of the motor. Mazlov, et al. do not teach an adaptation to changed power requirements. Moreover, there does not seem to be any need to adapt a vehicle drive motor to change power requirements. Thus, Mazlov, et al. do not teach a torque motor which is constructed to provide such benefits. Although a person of ordinary skill would be able to construct motors adapted to different power requirements by dimensioning the windings, etc., such a person would not be able to construct such a torque motor which can be adapted after the initial manufacture of the motor.

Therefore, Mazlov, et al. do not disclose or suggest a construction in which the stator segments are independently operable and each have their own housing, nor do they teach a construction in which the independently operable stator segment is positioned between a lower stator ring and an upper stator ring, as in the presently claimed invention.

In view of these considerations, it is respectfully submitted that the rejection of claims 15-28 under 35 U.S.C. 102(b) over the above discussed references are overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

In the event any actual fee is greater than any payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 06-2143.

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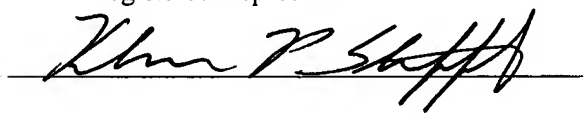

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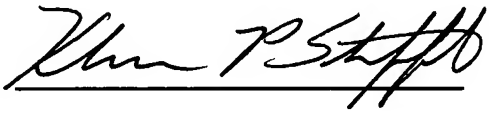

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